SECOND FLOOR RENOVATIONS
COLLEGE HILL WATER TREATMENT PLANT
CITY OF LYNCHBURG
DEPARTMENT OF PUBLIC WORKS

February, 2004

DRAWING LIST

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A-1	ARCHITECTURAL	DEMOLITION & NEW WORK PLANS AND SCHEDULES
C-1	CIVIL	DECK PLAN
M-1	MECHANICAL	MECHANICAL LEGEND, SCHEDULES, AND SPECIFICATIONS
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E-3	ELECTRICAL	ELECTRICAL SECOND FLOOR PLAN AND SCHEDULES

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MEAD Project No. 262-154

SET No.

DOOR SCHEDULE

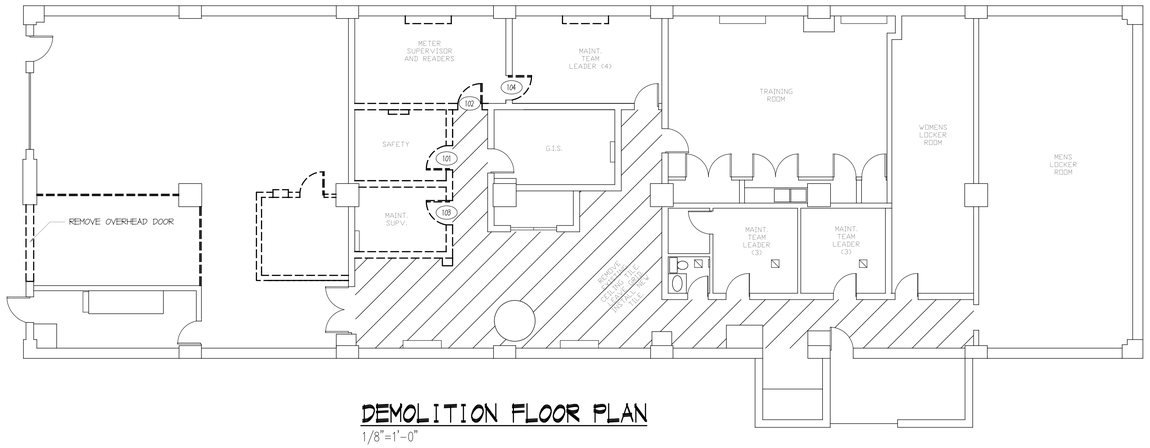
TAG	DOOR				FRAME	FIRE LABEL	GLASS	DETAILS			HDW. SET	REMARKS
	WIDTH	HEIGHT	MAT'L	ELEV	MAT'L			H	J	S		
101	3/0	6/8			H.M.							REUSE EXISTING DOOR
102	3/0	6/8			H.M.							REUSE EXISTING DOOR
103	3/0	6/8			H.M.							REUSE EXISTING DOOR
104	3/0	6/8			H.M.							REUSE EXISTING DOOR

-REUSE EXISTING HARDWARE
-PROVIDE NEW HOLLOW METAL FRAMES FOR DOORS

FINISH SCHEDULE

TAG	SPACE	FLOOR	BASE	NORTH WALL	SOUTH WALL	EAST WALL	WEST WALL	CEILING	CEILING HEIGHT	REMARKS
101	MAINT. TEAM LEADER	VCT	RUBBER	PAINTED G.D.W.	PAINTED G.D.W.	PAINTED G.D.W.	PAINTED G.D.W.	2'x4' ACT	9'-0"	
102	SAFETY	VCT	RUBBER	PAINTED G.D.W.	PAINTED G.D.W.	PAINTED G.D.W.	PAINTED G.D.W.	2'x4' ACT	9'-0"	
103	METER READERS AND SUPERVISOR	VCT	RUBBER	PAINTED G.D.W.	PAINTED G.D.W.	PAINTED G.D.W.	PAINTED G.D.W.	2'x4' ACT	9'-0"	
104	MAINT. SUPV.	VCT	RUBBER	PAINTED G.D.W.	PAINTED G.D.W.	PAINTED G.D.W.	PAINTED G.D.W.	2'x4' ACT	9'-0"	
105	BREAK ROOM	VCT	RUBBER	PAINTED G.D.W.	PAINTED G.D.W.	PAINTED G.D.W.	PAINTED G.D.W.	2'x4' ACT	9'-0"	
106	CORRIDOR	VCT	RUBBER	PAINTED G.D.W.	PAINTED G.D.W.	PAINTED G.D.W.	PAINTED G.D.W.	2'x4' ACT	EXISTING H&T	
107	TRAINING ROOM	VCT	RUBBER	PAINTED G.D.W.	PAINTED G.D.W.	PAINTED G.D.W.	PAINTED G.D.W.	2'x4' ACT	EXISTING H&T	
108	VACANT	VCT	RUBBER	PAINTED G.D.W.	PAINTED G.D.W.	PAINTED G.D.W.	PAINTED G.D.W.	2'x4' ACT	EXISTING H&T	
109	VACANT	VCT	RUBBER	PAINTED G.D.W.	PAINTED G.D.W.	PAINTED G.D.W.	PAINTED G.D.W.	2'x4' ACT	EXISTING H&T	

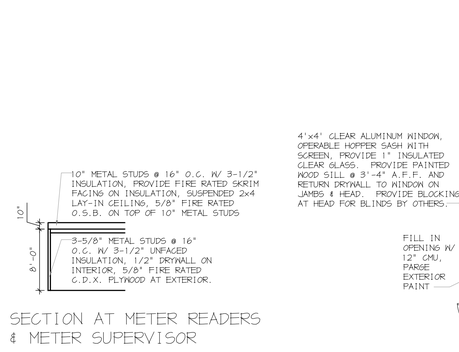
VINYL COMPOSITION TILE (VCT) - Azrock, 12"x12"x1/8", Cortina Colors
RUBBER BASE - Johnsonite 1/8"x4" cove
ACOUSTICAL TILE - 2'x4' Armstrong Fissured square lay-in ceiling tile with prelude 15/16" exposed TEE System
PAINT - Drywall: 1 coat latex primer, 2 finish coats semi-gloss latex
Hollow Metal Doors: 1 coat semi-gloss alkyd enamel over painted doors
Frames: 2 coats semi-gloss alkyd enamel over shop primer



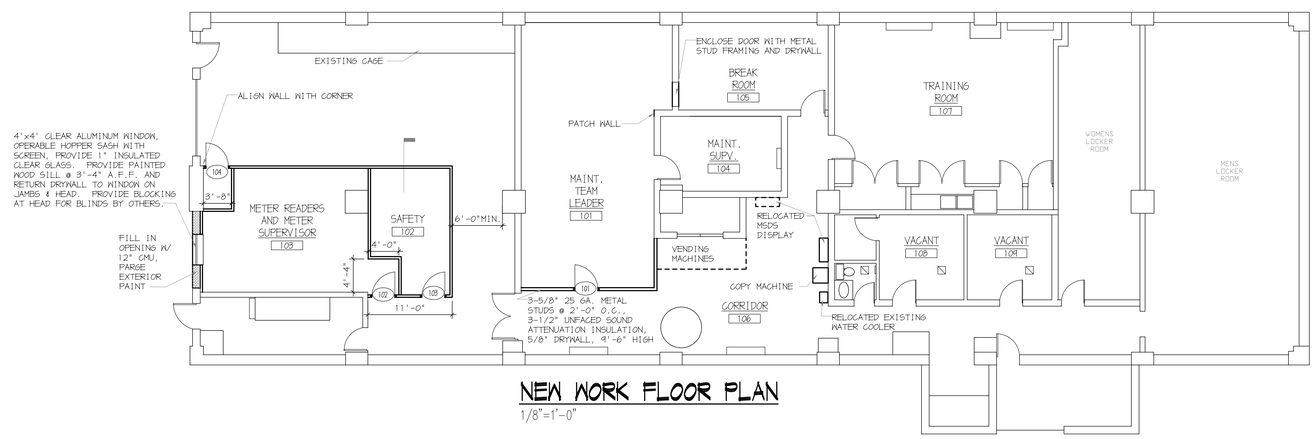
DEMOLITION FLOOR PLAN

1/8"=1'-0"

▭▭▭ INDICATES WALLS, DOORS, CEILING, AND FLOOR FINISHES (IF ANY) TO BE REMOVED



SECTION AT METER READERS & METER SUPERVISOR



NEW WORK FLOOR PLAN

1/8"=1'-0"

REVISIONS:

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THE CITY OF LYNCHBURG
DEPARTMENT OF PUBLIC WORKS
ENGINEERING
P.O. BOX 60
LYNCHBURG, VIRGINIA 24505

COLLEGE HILL FILTER PLANT
SECOND FLOOR RENOVATIONS

DATE ISSUED:	FEB. 2004
SCALE:	AS NOTED
JOB. NO.	200348
DESIGNED:	DBG
DRAWN:	JMB
CHECKED:	DBG
APPROVED:	DBG

DRAWING NO. A-1
SHEET OF
REVISION

DAVID GILES, INC.
ARCHITECTURE
343 South Main Street
Amherst, Virginia
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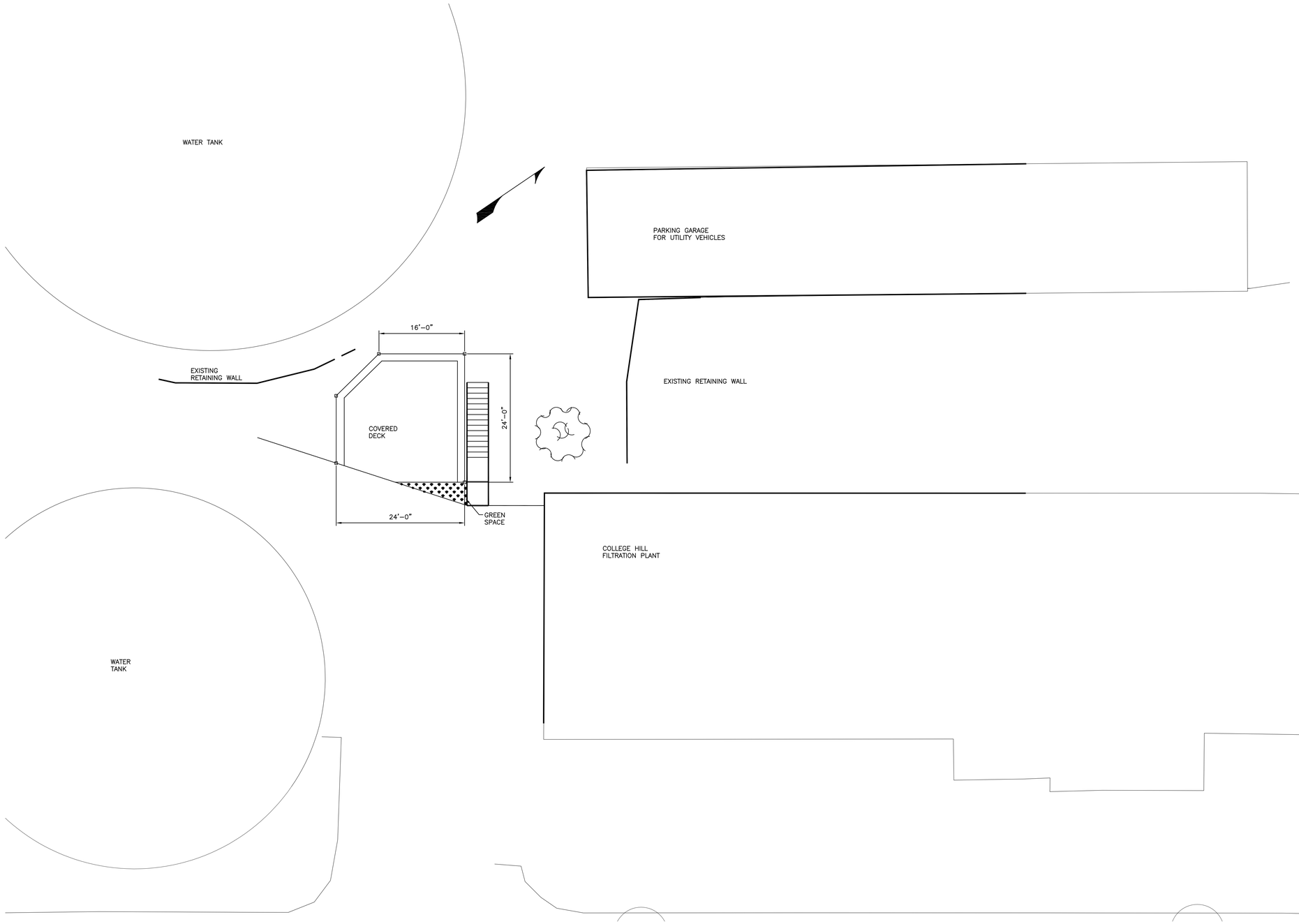

GENERAL NOTES:

1. DECK CONTRACTOR SHALL PROVIDE DECK ARCHITECTURAL AND STRUCTURAL DESIGN, DRAWINGS, AND SPECIFICATIONS MEETING ALL BUILDING CODE REQUIREMENTS. DECK DESIGN SHALL BE SEALED BY AN ENGINEER REGISTERED IN THE STATE OF VIRGINIA.
2. PRELIMINARY AND FINAL PLANS SHALL BE SUBMITTED TO THE BUILDING & GROUNDS PROJECT MANAGER FOR APPROVAL BEFORE ORDERING MATERIALS OR PROCEEDING WITH CONSTRUCTION.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING FINAL PLANS TO THE CITY OF LYNCHBURG BUILDING OFFICIAL FOR APPROVAL AND OBTAINING THE BUILDING PERMIT.
4. HORIZONTAL SURFACES SHALL BE TREX.
5. DECK SHALL HAVE A GABLE ROOF WITH 30-YEAR ASPHALT SHINGLES.
6. DECK SURFACE SHALL BE AT CURB HEIGHT ON SOUTH SIDE. THE OTHER THREE SIDES SHALL HAVE RAILING WITH INTEGRAL BENCH SEATING.
7. ALL TREX AND WOOD SURFACES SHALL BE STAINED OR PAINTED. SUBMIT PROPOSED COATINGS SPECIFICATIONS AND COLOR SAMPLES TO BUILDING & GROUNDS PROJECT MANAGER FOR APPROVAL.
8. DIMENSIONS ARE APPROXIMATE, AND MAY BE ADJUSTED TO MATCH ACTUAL FIELD CONDITIONS. SHOP DRAWINGS SHALL BE SUBMITTED FOR OWNER APPROVAL.

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C-1
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MECHANICAL LEGEND

SYMBOLS

- AC / 1 — SCHEDULED EQUIPMENT DESIGNATION
  UPPER: EQUIPMENT DESIGNATION
  LOWER: EQUIPMENT NUMBER
- AHU / 1 — AIR HANDLING UNIT
- HP / 1 — HEAT PUMP
- A / 1 — SCHEDULED AIR DISTRIBUTION DEVICE DESIGNATION
  UPPER–DIFFUSER, GRILLE OR REGISTER DESIGNATION
  LOWER–AIR QUANTITY – CFM
- CD / 100 — CEILING DIFFUSER
- RR / 100 — RETURN REGISTER
- WL / 1 — WALL LOUVER
- T — THERMOSTAT
- SPA — SET POINT ADJUSTMENT
- S — AVERAGING DUCT SENSOR

SHEET METAL

- SUPPLY DUCT UP
- SUPPLY DUCT DOWN
- EXHAUST OUTSIDE AIR OR RETURN DUCT UP
- EXHAUST OUTSIDE AIR OR RETURN DUCT DOWN
- DUCT WITH TURNING VANES
- ROUND DUCT UP
- ROUND DUCT DOWN
- SPIN–IN FITTING WITH DAMPER
- REDUCER
- SQUARE TO ROUND
- FLEXIBLE DUCT
- ROUND DUCT
- VERTICAL FIRE DAMPER, PARTITION RATING (FD#)
- HORIZONTAL FIRE DAMPER, FLOOR RATING (FD#)
- MOTOR OPERATED DAMPER (RUSKIN CD–60 OR EQUAL) (MOD)
- MANUAL VOLUME DAMPER
- CEILING DIFFUSER
- RETURN OR RELIEF AIR REGISTER
- DENOTES EXISTING EQUIPMENT
- DENOTES EXISTING EQUIPMENT TO BE REMOVED
- POINT OF CONNECTION (NEW TO EXISTING)

PIPING

- C — CONDENSATE
- CHWR — CHILLED WATER RETURN
- CHWS — CHILLED WATER SUPPLY
- HWR — HOT WATER RETURN
- HWS — HOT WATER SUPPLY
- HWRC — DOMESTIC HOTWATER RECIRCULATION
- CAPPED PIPE
- DIRECTION OF PITCH
- RISER
- DROP

ABBREVIATIONS

ABV	ABOVE
AFF	ABOVE FINISHED FLOOR
BTUH	BRITISH THERMAL UNIT PER HOUR
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
COND	CONDENSATE
CW	COLD WATER
DN	DOWN
DX	DIRECT EXPANSION
EAT	ENTERING AIR TEMPERATURE
EWC	ELECTRIC WATER COOLER
FC	FORWARD CURVED
FD	FLOOR DRAIN
FPM	FEET PER MINUTE
GPM	GALLONS PER MINUTE
HOA	HAND–OFF–AUTOMATIC
HP	HORSEPOWER
HWR	HEATING HOT WATER RETURN
HWS	HEATING HOT WATER SUPPLY
LAT	LEAVING AIR TEMPERATURE
MAX.	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MFR.	MANUFACTURER
MIN.	MINIMUM
MOD	MOTOR OPERATED DAMPER
MVD	MANUAL VOLUME DAMPER
NOM	NOMINAL
NTS	NOT TO SCALE
OA	OUTSIDE AIR
PD	PRESSURE DROP
RA	RETURN AIR
REL	RELIEF AIR
RPM	REVOLUTIONS PER MINUTE
SP	STATIC PRESSURE (INCHES OF WATER)
TYP.	TYPICAL
WL	WALL LOUVER

NOTES:

1. WHERE PORTIONS OF EXISTING CEILINGS OR WALLS MUST BE REMOVED TO INSTALL PIPE, RESTORE THOSE PORTIONS WITH MATCHING CONSTRUCTION. PAINT TO MATCH EXISTING ADJACENT SURFACES.
2. WHERE PIPES ROUTED THROUGH FLOORS ARE REMOVED AND NOT REPLACED, FILL HOLES FULL THICKNESS OF FLOORS WITH CONCRETE.
3. WHERE DUCTWORK, PIPING, OR ANY OTHER MECHANICAL EQUIPMENT IS INSTALLED ABOVE THE CEILING STRUCTURE, SUFFICIENT CLEARANCE SHALL BE PROVIDED BELOW ALL LOW POINTS OF THIS EQUIPMENT FOR THE INSTALLATION OF THE FINISHED CEILING AND ITS STRUCTURE AND ALL CEILING–MOUNTED EQUIPMENT INCLUDING CEILING–MOUNTED MECHANICAL EQUIPMENT, LIGHT FIXTURES, PLUMBING LINES, SPRINKLER HEADS, ETC. CLEARANCES REQUIRED FOR THE INSTALLATION OF THIS CEILING–MOUNTED EQUIPMENT SHALL BE VERIFIED AND COORDINATED WITH THE GENERAL CONTRACTOR AND ALL INVOLVED SUBCONTRACTORS BEFORE INSTALLING THE MECHANICAL EQUIPMENT.
4. WHERE SPACE IS LIMITED, ROUTES AND CLEARANCES AND INSTALLATION PROCEDURES FOR DUCTWORK, PIPING, VALVES, AND OTHER MECHANICAL EQUIPMENT SHALL BE VERIFIED AND COORDINATED WITH OTHER WORK BEFORE EQUIPMENT IS INSTALLED.
5. IF ANY EQUIPMENT OTHER THAN THAT SHOWN OR SPECIFIED IS FURNISHED, THE CONTRACTOR SHALL VERIFY THAT THE EQUIPMENT CAN BE INSTALLED IN THE SPACE AVAILABLE, INCLUDING PASSAGE THROUGH DOORS AND ACCESS DOORS AND ACCESS TO THOSE PARTS OF THE EQUIPMENT REQUIRING SERVICE.
6. ALL DUCTWORK AND PIPING SHALL BE LOCATED ABOVE NEW OR EXISTING CEILING UNLESS NOTED OTHERWISE.
7. OFFSET DUCTS AND PIPING WHERE NECESSARY TO CLEAR OTHER WORK SUCH AS BEAMS, PIPES, ELECT., ETC., COORDINATE DUCTWORK INSTALLATION WITH WORK OF OTHER TRADES TO AVOID SPACE CONFLICTS.
8. ALL CEILING–MOUNTED DIFFUSERS AND GRILLES IN FURRED CEILING SHALL BE SYMMETRICALLY LOCATED WITH RESPECT TO LIGHTING FIXTURES. DO NOT SCALE DRAWINGS FOR LOCATIONS. COORDINATE EXACT LOCATIONS WITH ELECTRICAL CONTRACTOR.
9. WHERE CONNECTIONS OR ALTERATIONS ARE MADE TO EXISTING PIPING, OR OTHER MECHANICAL EQUIPMENT, THE EXACT LOCATION AND CONFIGURATION OF THIS EQUIPMENT SHALL BE DETERMINED ON THE JOB SITE. ROUTE AND CLEARANCES FOR NEW PIPING, OR OTHER MECHANICAL EQUIPMENT CONNECTING TO EXISTING EQUIPMENT SHALL BE VERIFIED ON THE JOB SITE BEFORE FABRICATING NEW EQUIPMENT.
10. WHERE ANY PART OF BUILDING OR EXISTING EQUIPMENT ARE CUT OR OTHERWISE DISFIGURED TO PERMIT INSTALLATION OF NEW EQUIPMENT OR RELOCATION OF EXISTING EQUIPMENT, THIS PART OF BUILDING OR EXISTING EQUIPMENT SHALL BE REPAIRED TO MATCH EXISTING.
11. IDENTIFY THE CONTENT, SERVICE, AND THE DIRECTION OF FLOW FOR ALL NEW PIPING AND DUCTWORK SYSTEMS (WHETHER INSULATED OR UNINSULATED) BY ATTACHING SETON MARKERS NEAR EACH VALVE, NEAR WHERE THE PIPE OR DUCT PASSES THROUGH A WALL OR FLOOR AND ADJACENT TO ABRUPT DIRECTIONAL CHANGE (SUCH AS ELBOWS).
12. COORDINATE DEMOLITION AT THE DIRECTION OF THE OWNER'S REPRESENTATIVE TO MINIMIZE DISRUPTION OF ONGOING OCCUPANCY.
13. COORDINATE ALL DEMOLITION AND INSTALLATION OF TEMPORARY AND PERMANANT UTILITIES WITH OWNER. SCHEDULE THIS WORK SO AS TO CAUSE NO DISRUPTION OF EXISTING BUILDING OPERATION AND MINIMUM DELAY OF THE WORK. NOTIFY THE OWNER A MINIMUM OF TWO (2) WEEKS IN ADVANCE OF ANTICIPATED UTILITY OUTAGES, AND SCHEDULE SUCH WORK AT OWNER'S CONVENIENCE.
14. OWNER HAS FIRST REFUSAL ON EQUIPMENT AND FIXTURES REMOVED DURING DEMOLITION.
15. DEMOLITION AND INSTALLATION OF NEW WORK SHALL BE ACCOMPLISHED ON A ROOM–BY–ROOM BASIS AND WILL REQUIRE TIMELY REMOVAL OF MATERIALS AND REPLACEMENT WITH NEW. ACCESS TO SUCCESSIVE AREAS MAY BE RESTRICTED UNTIL PENDING WORK IN A PREVOIUS AREA IS COMPLETED TO A DEGREE ACCEPTABLE TO THE OWNER'S REPRESENTATIVE.
16. CERTIFIED AIR AND WATER BALANCE REPORTS SHALL ACCOMPANY A SET OF AS–BUILT PLANS INDICATING EXACT TO–SCALE LOCATIONS AND FINAL BALANCE RATES. MAINTAIN A MINIMUM OF ONE INTACT SET OF PROJECT PLANS AND SPECIFICATIONS AT JOB SITE MARKED TO SHOW ALL DEVIATIONS PERMITTED DURING CONSTRUCTION AS THE WORK IS INSTALLED. ALL MARKS SHALL BE RED IN COLOR, COMPLETE CLEAR AND LEGIBLE.

HVAC & PLUMBING SPECIFICATIONS:

1.0 GENERAL

1.01 THE CONTRACT DOCUMENTS APPLY TO THESE SPECIFICATIONS.

1.02 PROVIDE ALL NECESSARY LABOR AND MATERIALS FOR THE WORK SHOWN ON THE DRAWINGS, WHICH INCLUDES INSTALLATION OF HVAC SYSTEMS AND FIXTURES.

1.03 WORK SHALL MEET REQUIREMENTS OF LOCAL BUILDING CODES AND ORDINANCES, APPLICABLE REQUIREMENTS OF THE VUSBC AND NFPA.

1.04 SUBMIT SHOP DRAWINGS FOR THE FOLLOWING:
- A. PLUMBING FIXTURES & EQUIPMENT
- B. GRILLES, REGISTERS & DIFFUSERS
- C. HEATING AND AIR CONDITIONING EQUIPMENT
- D. INSULATION

1.05 PLACING IN SERVICE:
- A. BEFORE BEING PLACED INTO OPERATION, ALL EQUIPMENT REQUIRING PREOPERATIONAL ATTENTION SHALL BE SERVICED IN ACCORDANCE WITH THE REQUIREMENTS OF THESE SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS.
- B. THIS SERVICING SHALL INCLUDE LUBRICATION, CONTROL CALIBRATIONS AND ADJUSTMENTS, AND TESTING AND ADJUSTING OF OPERATING CONTROLS.
- C. AT THE COMPLETION OF PERFORMANCE TEST AND FOLLOWING APPROVAL OF TEST RESULTS, THE CONTRACTOR SHALL RECHECK ALL EQUIPMENT AND VERIFY THAT EACH ITEM IS FUNCTIONING CORRECTLY.
- D. FURNISH ALL NECESSARY EQUIPMENT AND ASSUME ALL COSTS INVOLVED TO PERFORM ALL TESTING, CLEANING, AND BALANCING OPERATIONS REQUIRED.
- E. TEST, ADJUST AND BALANCE ALL SYSTEMS UNTIL DESIGN FUNCTION AND OPERATION ARE ACHIEVED. THE CONTRACTOR MAY ENGAGE THE SERVICES OF AN INDEPENDENT CONTRACTOR WHO SPECIALIZES IN THE PRACTICE OF TESTING, ADJUSTING, AND BALANCING MECHANICAL EQUIPMENT AND SYSTEMS.

2.0 PRODUCTS

2.01 DUCTWORK:
- A. DUCT SYSTEMS SHALL BE IN ACCORDANCE WITH SMACNA DUCT CONSTRUCTION STANDARDS, THE NATIONAL FIRE PROTECTION ASSOCIATION AND MANUFACTURER'S RECOMMENDATIONS WHERE APPLICABLE.
- B. SYSTEMS AND MATERIALS: LOW VELOCITY A/C (GENERAL USE): GALVANIZED STEEL.
- C. FITTINGS FOR ALL DUCT SYSTEMS SHALL BE OF THE SAME MATERIAL AS THE DUCT.
- D. MATERIALS: GALVANIZED STEEL SHALL MEET REQUIREMENTS OF ASTM A–527, "STEEL SHEET, ZINC COATED BY THE HOT–DIP PROCESS, LOC–FORMING QUALITY". MANUAL DAMPER OPERATORS SHALL BE LOCKING TYPE AS MANUFACTURED BY VENTFABRICS, INC.OR YOUNG REGULATOR COMPANY.
- E. FLEXIBLE AIR DUCT SHALL BE FLEXMASTER TYPE 9 INSULATED FLEXIBLE DUCT. THE COMPLETE DUCT SHALL CONFORM TO NFPA 90A AND BE LISTED BY UNDERWRITERS' LABORATORIES AS 181 CLASS I AIR DUCT.

2.02 PIPE AND PIPE FITTINGS
- A. COPPER TUBE TYPE K, L: ANSI/ASTM B88.
- B. PVC PIPE: SCH. 40, GRADE PVC 2116: ASTM D1785 AND ASTM D2241.

2.03 PIPING SYSTEM SHALL BE SUPPORTED IN ACCORDANCE WITH ANSI B31.1 "POWER PIPING" SO AS TO MAINTAIN REQUIRED PITCH OF LINES, PREVENT VIBRATION AND PROVIDE FOR EXPANSION AND CONTRACTION MOVEMENT. REFER TO NFPA–13 FOR SPRINKLER PIPING REQUIREMENTS.

2.4 PIPING SCHEDULE

SERVICE	SIZE	PIPE TYPE	FITTING TYPE	VALVE TYPE	VALVE MFG & NO
DOMESTIC COLD WATER SUPPLY ABOVE GROUND (200 PSI NON–SHOCK COLD WATER)	2 INCH AND SMALLER	TYPE L COPPER	WRT. COPPER SOLDER	GATE GLOBE CHECK	NIBCO S–111 NIBCO S–211 NIBCO S–413B
A–C COND. DRAINS	ALL SIZES	TYPE L COPPER	WRT. COPPER SOLDER		
REFRIGERANT	ALL SIZES	TYPE K COPPER OR ACR CLEANED AND CAPPED	WRT. COPPER BRAZE		
SOIL, WASTE AND VENT ABOVE GROUND INSIDE	1½ INCH AND LARGER	PVC SCH. 40	AS RECOMMENDED BY MANUFACTURER		

2.5 INSULATION SCHEDULE

SERVICE	TYPE INSULATION	THICKNESS INCHES	FINISH IN CONCEALED AREAS	FINISH IN FINISH AREAS
PIPING				
REFRIGERANT LOW TEMP, ALL SIZES	FLEXIBLE ELASTOMERIC	0.75	NONE	TWO COATS ARMAFLEX FINISH
A/C CONDENSATE, ALL SIZES	FLEXIBLE ELASTOMERIC	0.5	NONE	TWO COATS ARMAFLEX FINISH
DOMESTIC COLD WATER	GLASS FIBER	1.0	INTEGRAL FIRE RETARDANT VAPOR BARRIER JACKET	PVC JACKET
DUCTWORK				
A/C SUPPLY RECTANGULAR	FLEXIBLE GLASS FIBER	1.5	FOIL–SCRIM–KRAFT VAPOR BARRIER JACKET	
OUTSIDE AIR INTAKE DUCTS	FLEXIBLE GLASS FIBER	1.5	FOIL–SCRIM–KRAFT VAPOR BARRIER JACKET	
RETURN AIR AND EXHAUST	FLEXIBLE GLASS FIBER	1.5	NONE	

3.0 EXECUTION

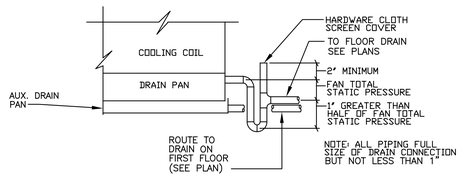
3.01 SUBJECT ALL DOMESTIC WATER PIPING SYSTEMS TO A HYDROSTATIC PRESSURE TEST AT 1–1/2 TIMES OPERATING PRESSURE OR 100 PSIG, WHICHEVER IS GREATER, MEASURED AT THE LOWEST POINT IN THE SYSTEM FOR A PERIOD OF FOUR HOURS.

3.02 PLUMBING DRAINAGE AND VENT SYSTEMS INSIDE THE BUILDING SHALL BE WATER TESTED UPON COMPLETION OF THE ROUGH PIPING INSTALLATION AND PROVED WATERTIGHT.

3.03 TEST FIELD–ASSEMBLED REFRIGERANT PIPING AND APPARATUS FOR ONE HOUR WITH DRY CARBON DIOXIDE OR NITROGEN, PLUS A SMALL AMOUNT OF REFRIGERANT. TEST PRESSURES SHALL BE IN ACCORDANCE WITH THE AMERICAN STANDARD SAFETY CODE FOR MECHANICAL REFRIGERATION.

3.04 DUCT SYSTEMS SHALL BE BALANCED TO PRODUCE AIR QUANITITIES WITHIN TEN (10) PERCENT OF SPECIFIED REQUIREMENTS.

CONDENSATE DRIP SIZING	
PIPE SIZE	CONNECTED LOAD (TONS)
1"	UP TO 5
1 1/4 "	UP TO 30
1 1/2 "	UP TO 50
2"	UP TO 175
3"	UP TO 300
4"	UP TO 400



DETAIL - CONDENSATE DRAIN FOR DRAW THROUGH COOLING COIL

NO SCALE

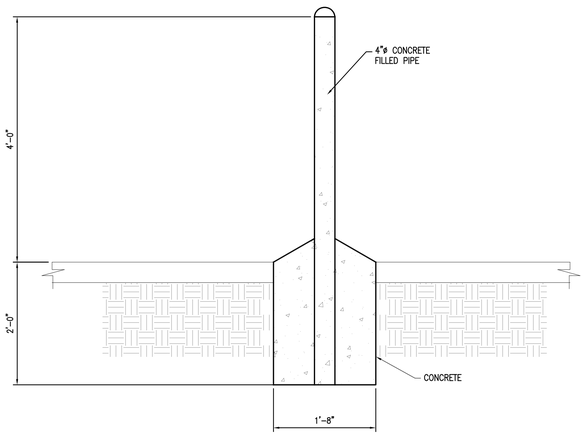
MISCELLANEOUS EQUIPMENT SCHEDULE	
MARK	DESCRIPTION
RF–1	RETURN/RELIEF AIR FAN EQUAL TO LOREN COOK 165 SQN–B, 1½HP, 230V/3PH/60HZ. 4000 CFM @ 0.50" IN WG SP. PROVIDE WITH ADJUSTABLE V–BELT DRIVE, GRAVITY BACKDRAFT DAMPER, BELT GAURD AND SPRING ISOLATORS. INTERLOCK TO RUN WHENEVER AHU–1 FAN RUNS
CD–#	CEILING DIFFUSER EQUAL TO METAL*AIRE 5500–65–D5–TR WITH 4 WAY AIR PATTERN– NECK SIZE AS SHOWN ON PLANS.
RR–#	RETURN REGISTER EQUAL TO METAL*AIRE 7000R–6–D7 PERFORATED RETURN– NECK SIZE 22X22.
WL–1	WALL LOUVER EQUAL TO RUSKIN ELF–811DD WITH FLANGED FRAME, BIRDSCREEN ON REAR AND FINISH AS SELECTED BY ARCHITECT– SIZE 48"WX42"H (COORDINATE WITH WINDOW SECTIONS REMOVED BEFORE FABRICATION)

HEAT PUMP SCHEDULE					
MARK	MODEL	NOMINAL TONS	SYSTEM SERVED	V/Ph/Hz	REMARKS
HP–1A	TWA060D300A	5	AHU–1	230/3/60	1,2,3
HP–1B	TWA060D300A	5	AHU–1	230/3/60	1,2,3

REMARKS:
1. MODEL NUMBER BASED ON TRANE.
2. WITH 5 YEAR COMPRESSOR WARRANTY.
3. REFER TO AIR HANDLING UNIT SCHEDULE FOR PERFORMANCE REQUIREMENTS

AIR HANDLING UNIT SCHEDULE														
MARK	MODEL	CFM		EXT SP	HP	Volts/Ph/Hz	COOLING COIL			AUX. HEATERS			REMARKS
		FAN	OA	in wg			TONS	SEN. MBH	EAT db/wb	KW	STAGES	V/Ph/Hz	
AHU–1	TWE120B3	4000	360	1.5	2	230/3/60	8.1	85.7	73.5/6/.8	14.96	1	230/3/60	1,2,3,4,5,6

REMARKS:
1. MODEL NUMBER BASED ON TRANE.
2. HORIZONTAL UNIT CONFIGURATION WITH DUAL–CURCUIT REFRIGERANT COIL.
3. WITH SINGLE POINT POWER CONNECTION.
4. OA CFM IS MINIMUM–NOT ACCOUNTING FOR ECONOMIZER OPERATION.
5. PROVIDE WITH RETURN AIR AVERAGING AIR SENSOR WITH REMOTE SETPOINT ADJUSTMENT, MULTIPLE STAGE COOLING, HEAT PUMP, AUXILIARY HEAT, AND ENTHALPY ECONOMIZER CONTROLLER WITH RETURN AND RELIEF AIR DAMPERS, AND OPERATORS.
6. PROVIDE DUCT SMOKE DETECTOR IN SUPPLY AND RETURN TO AIR HANDLING UNIT IN ACCORDANCE WITH IMC AND VUSBC. DUCT SMOKE DETECTOR SHALL BE 120V/1ø/60Hz WITH DRY CONTACT OUTPUT TO FACP AND SHALL PROVIDE HARD WIRED INTERFACE TO SHUT DOWN AHU FAN AND ANY RELATED RETURN OR EXHAUST FANS.



STANDARD BOLLARD DETAIL

SCALE: 1/2"=1'–0"

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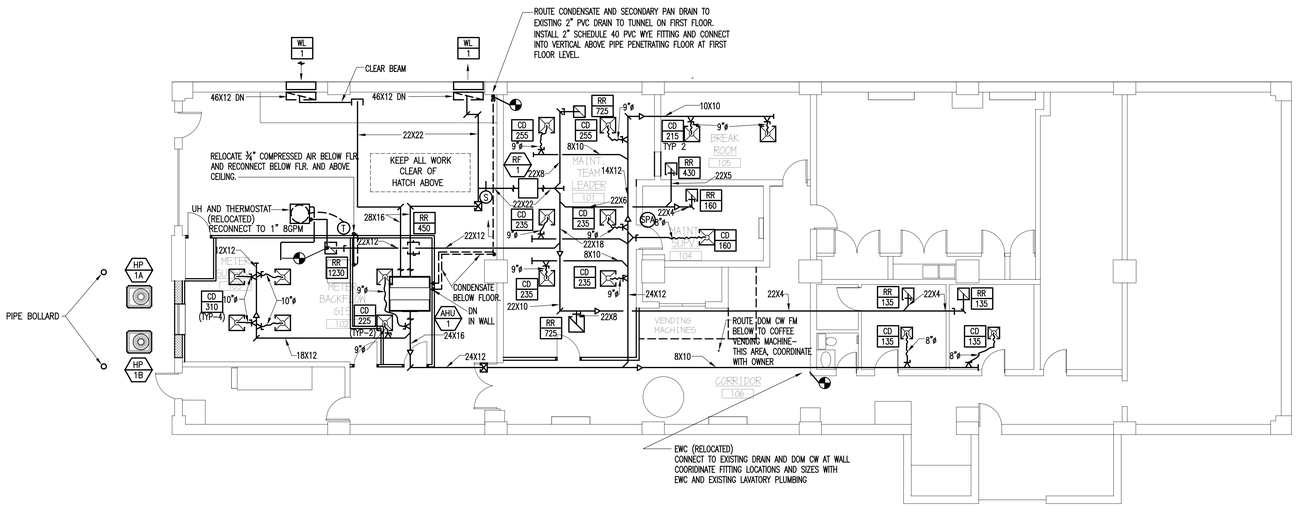
THE CITY OF LYNCHBURG
DEPARTMENT OF PUBLIC WORKS
ENGINEERING
P.O. BOX 60
LYNCHBURG, VIRGINIA 24505

COLLEGE HILL FILTER PLANT
SECOND FLOOR RENOVATIONS

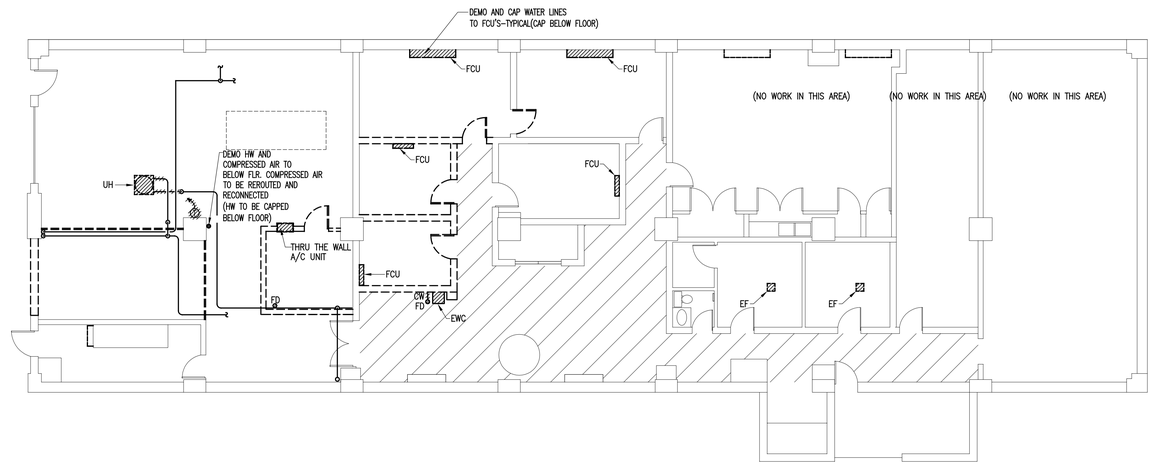
DATE ISSUED:	Feb. 2004
SCALE:	AS NOTED
JOB. NO.	262–154
DESIGNED:	CLS
DRAWN:	ATE
CHECKED:	CLS
APPROVED:	DLC

DRAWING NO. M–1
SHEET OF
REVISION

DAVID GILES, INC.
ARCHITECTURE
343 South Main Street
Amherst, Virginia
(434) 946–2100



MECHANICAL - SECOND FLOOR PLAN
1/8"=1'-0"



MECHANICAL - DEMOLITION SECOND FLOOR PLAN
1/8"=1'-0"

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COLLEGE HILL FILTER PLANT
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ELECTRICAL LEGEND

———	CONDUIT RUN EXPOSED
—·—·—	CONDUIT RUN CONCEALED ABOVE CEILING OR IN WALL
– – – –	CONDUIT RUN IN OR BELOW FLOOR SLAB OR BELOW GRADE, AS APPLICABLE
———→	HOMERUN
———→	ARROWHEADS: QUANTITY OF ARROWHEADS INDICATES QUANTITY OF CIRCUITS IN A CONDUIT RUN
K	LIGHT FIXTURE, FLUORESCENT; LETTER INDICATES TYPE
K	LIGHT FIXTURE, FLUORESCENT,BATTERY BACKUP UNSWITCHED, LETTER INDICATES TYPE
K	LIGHT FIXTURE, INCANDESCENT, FLUORESCENT OR HID, CEILING-MOUNTED; LETTER INDICATES TYPE
K	LIGHT FIXTURE, INCANDESCENT, FLUORESCENT OR HID, WALL-MOUNTED; LETTER INDICATES TYPE
	EXIT LIGHT, DIRECTIONAL ARROWS AS INDICATED ON PLAN, BATTERY BACKUP UNSWITCHED
	EXIT LIGHT, DIRECTIONAL ARROWS AS INDICATED ON PLAN, BATTERY BACKUP UNSWITCHED
	EMERGENCY UNIT, BATTERY BACKUP
S	SWITCH, SINGLE POLE
S^2	SWITCH, DOUBLE POLE
S^3	SWITCH, THREE / WAY
S^4	SWITCH, FOUR / WAY
S^P	SWITCH, SINGLE POLE W / PILOT LIGHT
S^b	LOWER CASE LETTER USED WITH ANY OF THE ABOVE INDICATES WHICH FIXTURES ARE CONTROLLED BY A GIVEN SWITCH
	COMBINATION DISCONNECT AND MOTOR CONTROLLER
M	MANUAL STARTER SWITCH, HORSEPOWER RATED
J 3/30	DISCONNECT SWITCH, NON-FUSED, NUMBER OF POLES AND SWITCH AMPACITY INDICATED
F J 3/30	DISCONNECT SWITCH, FUSIBLE, NUMBER OF POLES AND SWITCH AMPACITY INDICATED. FUSE PER EQUIPMENT MANUFACTURER RECOMMENDATION.
	GROUND ROD
	PANELBOARD
M	MOTOR
	RECEPTACLE, DUPLEX, NEMA 5-20R, WALL MOUNTED, COUNTER HEIGHT, GFI
	RECEPTACLE, DUPLEX, NEMA 5-20R, WALL MOUNTED, COUNTER HEIGHT
WP	RECEPTACLE, DUPLEX, NEMA 5-20R, WALL MOUNTED, GFI (GROUND FAULT INTERRUPTER) WP INDICATES WEATHER PROOF
	RECEPTACLE, DUPLEX, NEMA 5-20R, WALL MOUNTED,
	RECEPTACLE, SINGLE, NEMA 5-20R, WALL MOUNTED,
	RECEPTACLE, QUADRAPLEX, TWO NEMA 5-20R, WALL MOUNTED,
	RECEPTACLE, SPECIAL PURPOSE
J	JUNCTION BOX. SIZE IN ACCORDANCE WITH NEC
	4" x 4" OUTLET BOX WITH 3/4"C STUBBED UP INTO CEILING PLENUM FOR TELECOM (VOICE AND DATA)
W	WALL TELEPHONE OUTLET
PA	PUBLIC ADDRESS OUTLET
S	SPEAKER
FCU	FAN COIL UNIT
TC	TIME CLOCK
F	FIRE ALARM MANUAL PULL STATION
F	FIRE ALARM EVACUATION ALARM, AUDIBLE AND VISUAL
S,R F DS	FIRE ALARM DUCT SMOKE DETECTORS (S=SUPPLY, R=RETURN) SEE MECHANICAL DRAWINGS FOR SPECIFICATIONS.
	PUSH BUTTON

ABBREVIATIONS

AF	AMPERE FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AMPS	AMPERES
AT	AMPERE TRIP
BCSD	BARE COPPER SOFT DRAWN
C	CONDUIT
CT'S	CURRENT TRANSFORMERS
EGC	EQUIPMENT GROUNDING CONDUCTOR
ETR	EXISTING TO REMAIN
FCU	FAN COIL UNIT
GEC	GROUNDING ELECTRODE CONDUCTOR
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
HP	HORSEPOWER
JB	JUNCTION BOX
KCM	THOUSAND CIRCULAR MILS
KVA	THOUSAND VOLT AMPERES
MCCB	MOLDED CASE CIRCUIT BREAKER
NEUT, N	NEUTRAL
P	POLE
PVC	POLYVINYL CHLORIDE
PEMR	PER EQUIPMENT MANUFACTURERS RECOMMENDATION
RMS	ROOT MEAN SQUARED
RSC	RIGID STEEL CONUIT
SE	SERVICE ENTRANCE
SYM	SYMMETRICAL
V	VOLTS
ø	PHASE

NOTES (DRAWING NO. E-1)

1. ALL ITEMS ARE NEW UNLESS INDICATED OTHERWISE.

LIGHTING FIXTURE SCHEDULE

SEE DRAWINGS TO PROVIDE LIGHT FIXTURES WITH DUAL BALLAST, DIMMING BALLAST, AND SWITCHING INDICATED

MANUFACTURERS AND BALLAST ARE INDICATED FOR DESCRIPTION PURPOSES ONLY. LIGHT FIXTURES OF EQUAL QUALITY BY OTHER MANUFACTURERS ARE ACCEPTABLE, AND SHALL BE APPROVED BY THE ENGINEER

TYPE	MANUFACTURER	CATALOG NUMBER	VOLTAGE	VOLT-AMPERES (MAXIMUM)	LAMPS QTY	LAMPS TYPE	MOUNTING	DESCRIPTION
A	LITHONIA	2GT8 4 32 A19 GEB10	120	128	4	F32T8/TL830	RECESSED	2' X 4' FLUORESCENT STATIC TROFFER, 4 LAMP, ELECTRONIC BALLAST, ACRYLIC LENS
B	NOT SPECIFIED	NONE	120	150	1	A19	SURFACE	PORCELAIN BASE INCANDESCENT KEYLESS
X	LITHONIA	LE S 2 R EL N	120	5	---	LED ARRAY	WALL/CEILING	EMERGENCY EXIT SIGN, LED, BRUSHED ALUMINUM FACE, MATTE BLACK HOUSING, RED LETTERS, NI-CAD BATTERY BACKUP
EM	LITHONIA	ELM4 N H	120	30	2	8W HALOGEN	WALL	EMERGENCY UNIT, NI CAD BATTERY, 12 VOLT, (2) 8 WATT HALOGEN LAMPS

ELECTRICAL SPECIFICATIONS

PART 1 - GENERAL

1.1 PROVIDE ALL NECESSARY ITEMS FOR THE COMPLETE INSTALLATION OF A PROPERLY OPERATING ELECTRICAL SYSTEM AS SPECIFIED HEREIN, BASED ON THESE DRAWINGS, ALL APPLICABLE CODES, STANDARDS AND THE INTENDED PURPOSE OF THE OWNER.

1.2 COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES AND ALL REQUIREMENTS OF THE CURRENT NATIONAL ELECTRICAL CODE.

1.3 FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES REQUIRED TO COMPLETE AND LEAVE READY FOR OPERATION ALL ELECTRICAL SYSTEMS AS SHOWN ON THESE DRAWINGS AND AS REQUIRED, INCLUDING THE COMPLETE COORDINATION OF ALL PORTIONS OF ELECTRICAL WORK WITH THAT OF OTHER TRADES.

1.4 FURNISH NEW UL LISTED, WHERE APPLICABLE, MATERIALS AND EQUIPMENT.

1.5 VISIT THE SITE TO BECOME KNOWLEDGEABLE ABOUT THE LOCATION, ACCESSIBILITY AND GENERAL CHARACTER OF THE SITE OR BUILDING, AND THE CHARACTER AND EXTENT OF EXISTING WORK WITHIN OR ADJACENT TO THE SITE. CLAIMS, AS A RESULT OF FAILURE TO DO SO, WILL NOT BE CONSIDERED BY THE OWNER.

1.6 ARRANGE EQUIPMENT AS SHOWN ON THE DRAWINGS. MAKE DEVIATIONS ONLY WHERE NECESSARY TO AVOID INTERFERENCE. CHECK EQUIPMENT SIZE AGAINST AVAILABLE SPACE PRIOR TO SHIPMENT TO AVOID INTERFERENCE.

1.7 MAKE INDICATED REVISIONS AND ADDITIONS TO EXISTING FACILITIES AND EQUIPMENT INCLUDING ALL DEMOLITION AND REWORK OF EXISTING SYSTEMS.

1.8 COORDINATE ELECTRICAL OUTAGES WITH THE OWNER TO FACILITATE REWORKING OF EXISTING SYSTEM.

1.9 PROVIDE TESTING TO CONFIRM PROPER OPERATION OF ALL ELECTRICAL SYSTEMS, REPAIR OR REPLACE, AT NO EXPENSE TO OWNER, MATERIAL OR EQUIPMENT FAILING TESTS.

1.10 INSTRUCT THE OWNER'S REPRESENTATIVES IN THE PROPER OPERATION AND CONTROL OF ALL EQUIPMENT INSTALLED UNDER THIS CONTRACT.

1.11 GUARANTEE MATERIALS AND WORKMANSHIP AGAINST DEFECTS, REPLACE, AT NO EXPENSE TO OWNER, WORK OR MATERIAL THAT IS SHOWN TO BE DEFECTIVE WITHIN A PERIOD OF ONE (1) YEAR AFTER FINAL ACCEPTANCE OF WORK.

1.12 SUBMIT SIX (6) COPIES OF SHOP DRAWINGS FOR THE FOLLOWING:

A. RACEWAYS
B. WIRING
C. SAFETY SWITCHES
D. PANELBOARDS
E. CIRCUIT BREAKERS
F. STARTERS
G. LIGHTING FIXTURES AND LAMPS

1.13 SUBMISSION OF SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF PROVIDING ELECTRICAL EQUIPMENT AND MATERIALS WITH THE PROPER ELECTRICAL CHARACTERISTICS AND FEATURES AS SPECIFIED HEREIN AND ON THE DRAWINGS.

1.14 SUBMIT CONSTRUCTION RECORD DRAWINGS THAT REFLECT ALL ADJUSTMENTS MADE TO THESE DRAWINGS. PROVIDE CLEAR, CLEAN MARK-UPS OF THE RECORD CONDITIONS SO THAT THE ORIGINAL DRAWINGS CAN BE UPDATED.

1.15 SUBMIT THREE (3) COPIES OF OPERATION AND MAINTENANCE MANUALS COVERING ITEMS AND EQUIPMENT INCLUDED IN THIS WORK.

PART 2 - PRODUCTS

2.1 FURNISH AND INSTALL ALL ELECTRICAL MATERIAL.

2.2 NAMEPLATES ON ALL PANELS, DISCONNECT SWITCHES, ETC., MADE OF BLACK LAMINATED PHENOLIC WITH WHITE LETTERS. FASTENERS SHALL BE SCREWS.

2.3 TYPED DIRECTORIES FOR ALL PANELS TO MATCH RECORD DRAWINGS.

2.4 RACEWAYS

A. CONCEALED AND UNFINISHED AREAS: RIGID STEEL CONDUIT (RGS), ELECTRICAL METALLIC TUBING (EMT), OR PVC SCHEDULE 40 IN ACCORDANCE WITH THE NEC. MINIMUM SIZE CONDUIT SHALL BE 3/4 INCH. EMT FITTINGS SHALL BE STEEL, COMPRESSION TYPE.

B. EXPOSED IN FINISHED AREAS: SURFACE RACEWAY BY WIREMOLD OR PANDUIT. RACEWAY COLOR SHALL MATCH THE ATTACHED SURFACE. SECURE RACEWAY WITH ADHESIVE AND SCREWS INTO SURFACE.

C. FLEXIBLE CONDUIT FOR ALL FINAL CONNECTIONS TO MOTORS AND EQUIPMENT SUBJECT TO VIBRATION. USE LIQUIDTIGHT OUTDOORS.

WIRING

2.5 A. CONDUCTOR

1. MATERIAL: COPPER
2. SIZES: #2 AWG MINIMUM FOR POWER, #14 AWG MINIMUM FOR CONTROL

B. INSULATION

1. #8 AWG AND SMALLER TYPE THHN/THWN
2. LARGER THAN #8 AWG, TYPE XHHW OR THHN RATED FOR 90 DEG. C
3. VOLTAGE RATING: 600 VOLTS

2.6 GROUNDING SYSTEM PER THE DRAWINGS AND ARTICLE 250 OF THE NEC. GROUND ALL METAL RACEWAYS AND ENCLOSURES. PROVIDE EQUIPMENT GROUNDING CONDUCTORS IN ALL RACEWAYS.

2.7 MECHANICAL FIRE STOP OR UL CLASSIFIED FOAM SEALANT FOR ALL CONDUIT PENETRATIONS OF FIRE RATED WALLS AND FLOORS.

2.8 HANGERS, BOLTS, CLAMPS, STEEL ITEMS, ANCHORS, SLEEVES, CHASES, SUPPORTS, FLASHING AND SIMILAR ITEMS REQUIRED FOR THE PROPER INSTALLATION OF ALL ELECTRICAL WORK.

2.9 WIRING DEVICE BOXES:

A. CONCEALED: SHEET METAL, ZINC COATED, OR CADMIUM PLATED.

B. EXPOSED: CAST COPPER-FREE ALUMINUM OR IRON ALLOY.

C. COVER PLATES: FLUSH TYPE STAINLESS STEEL WITH SATIN FINISH.

2.10 SPECIFICATION GRADE WIRING DEVICES BY BRYANT, HUBBLE, LEVITON, OR PASS & SEYMOUR.

A. GENERAL USE SNAP SWITCHES: 20 AMP, 120,277 VOLT, QUIET TYPE.

B. DUPLEX CONVENIENCE RECEPTACLES: 20 AMP, 125 VOLT, GROUNDING TYPE, NEMA 5-20R UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

C. GROUND FAULT INTERRUPTER, DUPLEX CONVENIENCE RECEPTACLES: 20 AMP, 125 VOLT, GROUNDING TYPE, NEMA 5-20R UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

D. DEVICE COLOR: GRAY.

2.11 SAFETY SWITCHES SHALL BE THE ENCLOSED HEAVY DUTY TYPE (HD) WITH "QUICK-MAKE", "QUICK-BREAK" MECHANISM AND EXTERNAL PADLOCK ABLE OPERATING HANDLE. THEY SHALL BE FUSIBLE OR NON-FUSIBLE, TWO, THREE, OR FOUR POLE AS INDICATED. MANUFACTURER SHALL BE SQUARE D, CUTLER-HAMMER, GENERAL ELECTRIC, OR SIEMENS.

2.12 PANELBOARDS AND MOLDED CASE CIRCUIT BREAKERS (MCCB) SHALL HAVE RATINGS AS INDICATED. BUS BARS SHALL BE COPPER. MCCB'S SHALL BE BOLT ON. LOAD CENTERS ARE NOT PERMITTED. MANUFACTURER SHALL BE SQUARE D, CUTLER-HAMMER, GENERAL ELECTRIC, OR SIEMENS.

2.13 MANUAL STARTERS SHALL BE "QUICK-MAKE" AND "QUICK-BREAK" MECHANISMS AND BE TRIP FREE. THEY SHALL BE THE TOGGLE TYPE RESEMBLING LIGHT SWITCHES USED FOR CONTROLLING LIGHTS AND SHALL MOUNT IN LIGHT SWITCH OUTLET BOX.

2.14 MAGNETIC STARTERS

A. COMBINATION STARTERS: DISCONECTING MEANS SHALL BE "QUICK-MAKE" AND "QUICK-BREAK" MECHANISMS AND BE TRIP FREE.

B. STARTERS SHALL BE ELECTRO-MECHANICAL.

C. THERMAL OVERLOAD PROTECTION SHALL BE TRIP FREE AND HAND RESET. OVERLOADS RELAYS SHALL BE CLASS 10.

D. CONTROL VOLTAGE SHALL BE 120 VOLT OBTAINED WITHIN STARTER. CONTROL TRANSFORMERS SHALL BE PART OF STARTER. UNDERGROUND CONTROL WIRING, INCLUDING THE PRIMARY TO CONTROL TRANSFORMERS SHALL BE FUSED. EACH CONTROL TRANSFORMER SHALL HAVE SUFFICIENT CAPACITY FOR THE PROPER OPERATION OF ALL DEVICES WITHIN THE ASSOCIATED SYSTEM. WHERE REQUIRED, RATINGS LARGER THAN STANDARD OR NORMAL CAPACITY SHALL BE PROVIDED.

E. STARTERS UNDER AUTOMATIC CONTROL SHALL BE PROVIDED WITH HAND-OFF-AUTO SWITCH.

F. MANUFACTURER SHALL BE ALLEN-BRADLEY, CUTLER-HAMMER, FURNAS, GENERAL ELECTRIC, SEIMENS, OR SQUARE D.

2.15 LIGHTING FIXTURES (COMPLETE WITH LAMPS) AS SCHEDULED ON DRAWINGS INCLUDING ALL REQUIRED SUPPORTS, BACKING, BLOCKING, ETC.

2.16 EMERGENCY FLUORESCENT BALLEST LIGHT OUTPUT PER FIXTURE SHALL BE 1400 LUMENS.

2.17 NEMA 1 ENCLOSURES INDOORS AND NEMA 3R ENCLOSURES OUTDOORS UNLESS OTHERWISE INDICATED ON DRAWINGS.

PART 3 - EXECUTION

3.1 PROVIDE EQUIPMENT CONNECTIONS COMPLETE WITH SWITCHES, WIRING DEVICES, CONTROL DEVICES, PROTECTIVE DEVICES, CONDUIT, WIRE AND OTHER ACCESSORIES. ALL EQUIPMENT AND CONNECTIONS SHALL BE AS RECOMMENDED BY THE MANUFACTURER.

3.2 COORDINATE THE VOLTAGE REQUIREMENTS OF ALL EQUIPMENT TO BE INSTALLED, REGARDLESS OF THE SUPPLIER, WITH THE UTILIZATION AND / OR DISTRIBUTION VOLTAGES SHOWN ON THE ELECTRICAL DRAWINGS. REPAIR OR REPLACE, AT NO EXPENSE TO THE OWNER, EQUIPMENT SUSTAINING DAMAGE BECAUSE OF IMPROPER CONNECTIONS.

3.3 WHEN EQUIPMENT IS SUPPLIED WITH OTHER ELECTRICAL REQUIREMENTS AT VARIANCE WITH THOSE SPECIFIED OR SHOWN ON THE DRAWINGS, PROVIDE ASSOCIATED ELECTRICAL DEVICES AND CIRCUITRY OF THE CORRECT SIZES AND RATINGS.

3.4 INSTALL RACEWAYS IN ACCORDANCE WITH NEC.

3.5 LABEL AND IDENTIFY ALL PANELBOARDS, DISCONNECTS, STARTERS, PULL BOXES, FEEDERS, CIRCUITS, AND SIMILAR ITEMS.

3.6 PROVIDE ALL CUTTING, DRILLING AND PATCHING OF THE BUILDING STRUCTURE AS REQUIRED FOR THE WORK AS INDICATED. PATCHING SHALL MATCH EXISTING SURROUNDING AREA.

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COLLEGE HILL FILTER PLANT
SECOND FLOOR RENOVATIONS

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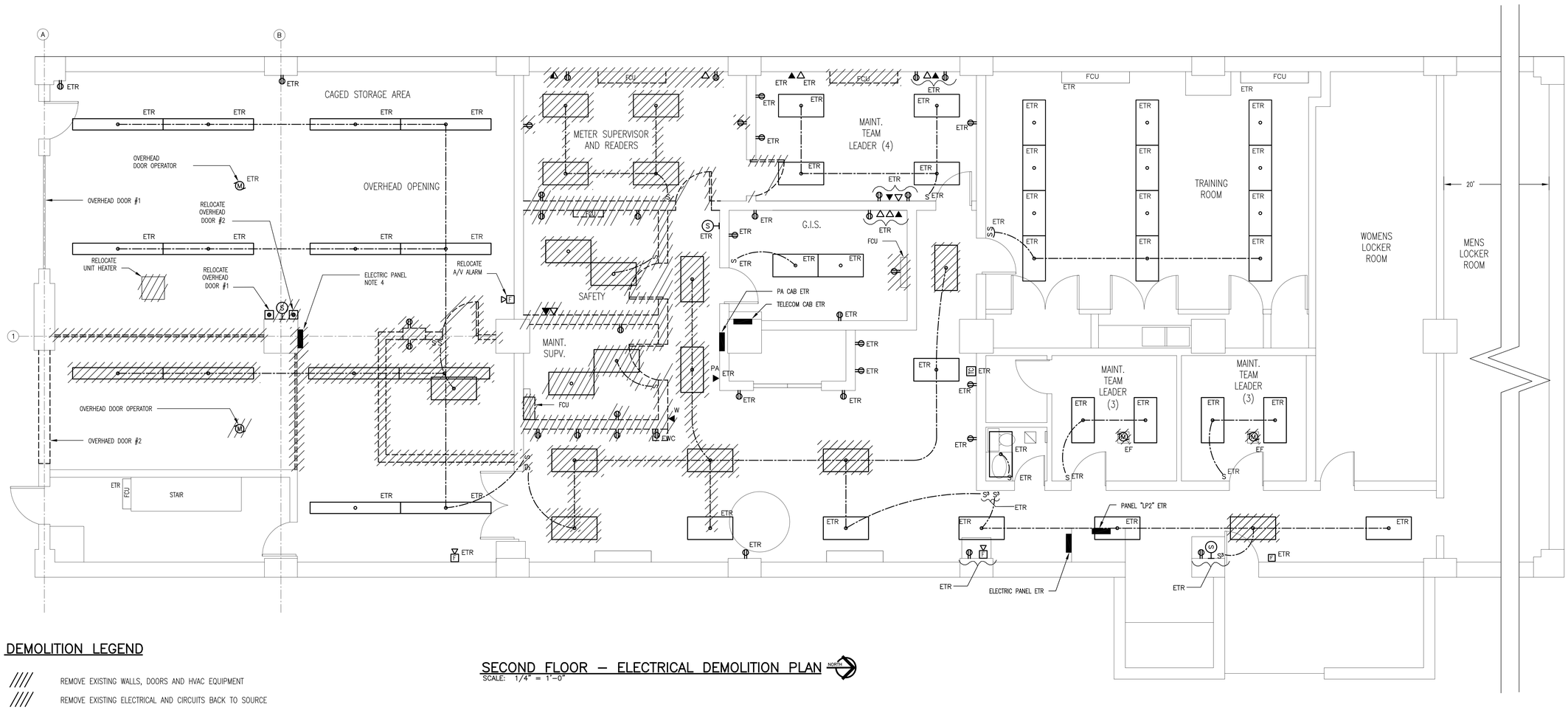


SECOND FLOOR – ELECTRICAL DEMOLITION PLAN
SCALE: 1/4" = 1'–0"

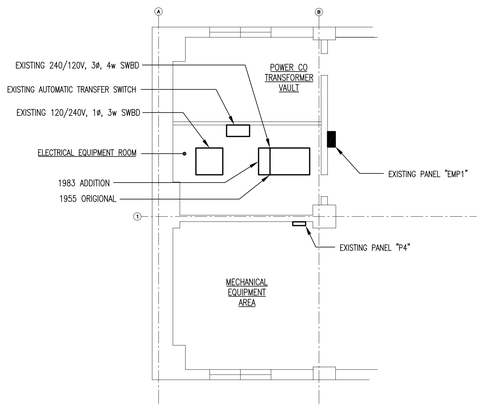
DEMOLITION LEGEND

//// REMOVE EXISTING WALLS, DOORS AND HVAC EQUIPMENT

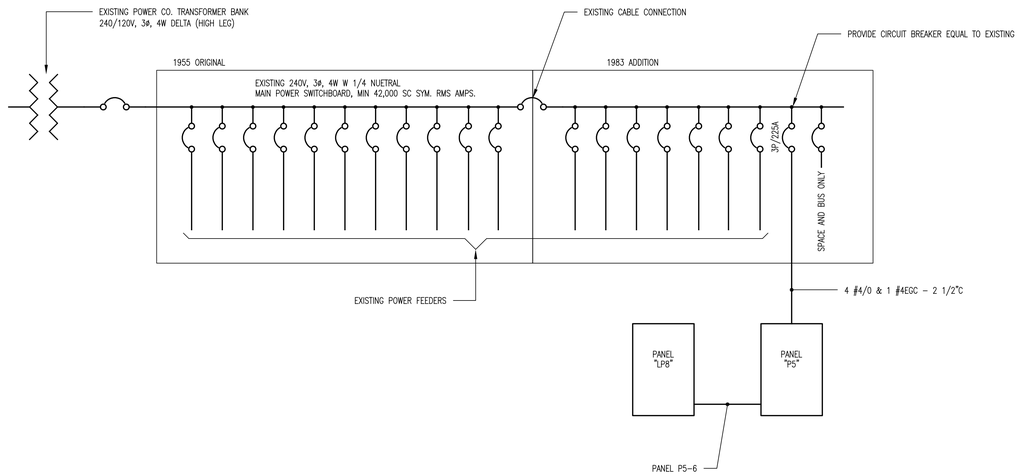
//// REMOVE EXISTING ELECTRICAL AND CIRCUITS BACK TO SOURCE

NOTES (DRAWING NO. E–2)

1. DRAWINGS ARE A GRAPHICAL REPRESENTATION, AND MAY NOT BE TO SCALE. ALL MEASUREMENTS SHOULD BE FIELD VERIFIED.
2. EXISTING LIGHTS, RECEPTACLES AND MISCELLANEOUS EQUIPMENT ARE SERVED FROM PANEL "LP2" BRANCH CICUITS UNLES INDICATED OTHERWISE. REMOVE THAT PORTION OF THE BRANCH CIRCUIT SERVING REMOVED EQUIPMENT.
3. THE EXISTING TO REMAIN (ETR) LIGHTS, RECEPTACLES AND MISCELLANEOUS EQUIPMENT SHALL CONTINUE TO BE SERVED FROM PANEL "LP2" AFTER DEMOLITION UNLESS INDICATED OTHERWISE. REWORK EXISTING BRANCH CIRCUITS PROVIDING RACEWAYS AND WIRING AS REQUIRED.
4. REMOVE EXISTING ELECTRICAL PANEL AND BRANCH CIRCUITS. REMOVE PANEL FEEDER CIRCUIT BACK TO PANEL "P4" ON FIRST FLOOR. SEE FIRST FLOOR ELECTRICAL PART PLAN THIS DRAWING.



FIRST FLOOR – ELECTRICAL PART PLAN
SCALE: 1/8" = 1'–0"



ELECTRICAL ONE – LINE DIAGRAM
SCALE: NOT TO SCALE

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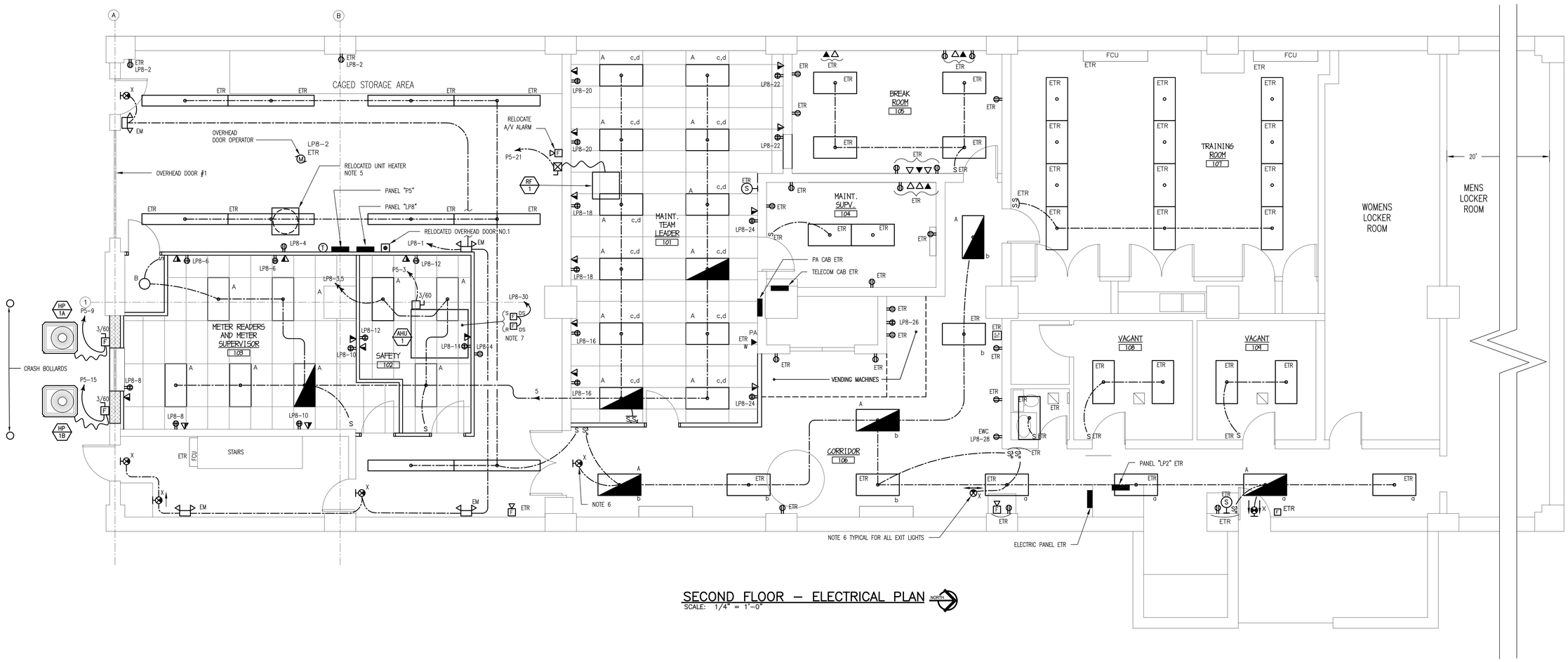

SECOND FLOOR – ELECTRICAL PLAN
SCALE: 1/4" = 1'-0"

NOTES (DRAWING NO. E-3)

1. DRAWINGS ARE A GRAPHICAL REPRESENTATION, AND MAY NOT BE TO SCALE. ALL MEASUREMENTS SHOULD BE FIELD VERIFIED.
2. EXISTING LIGHTS, RECEPTACLES AND MISCELLANEOUS EQUIPMENT ARE SERVED FROM PANEL "LP2" BRANCH CIRCUITS UNLESS INDICATED OTHERWISE. REMOVE THAT PORTION OF THE BRANCH CIRCUIT SERVING REMOVED CIRCUITS.
3. ALL ITEMS ARE NEW UNLESS INDICATED OTHERWISE.
4. RECEPTACLE CIRCUITS ARE INDICATED BY THE CIRCUIT NUMBER ADJACENT TO THE RECEPTACLES.
5. EXTEND EXISTING CIRCUIT TO RELOCATED UNIT HEATER.
6. EXTEND UNSWITCHED LEG OF CIRCUIT TO EXIT LIGHT.
7. CONNECT SUPPLY AND RETURN DUCT SMOKE DETECTORS TO FIRE ALARM CONTROL PANEL ON FOURTH FLOOR.

PANEL "P5" SCHEDULE

PANELBOARD CHARACTERISTICS:
VOLTS: 240/120 (B PHASE HIGH LEG) — MAIN BREAKER: 225 AMP — LOCATION: SECOND FLOOR STORAGE AREA
PHASES: 3
WIRES: 4 — MINIMUM SHORT CIRCUIT RATING: 22,000 RMS SYM AMPS
SOLID NEUTRAL, GROUND BAR

CKT. NO.	POLE NO.	DESCRIPTION	CONN. KVA	CONN. AMPS A	CONN. AMPS B	CONN. AMPS C	BREAKER P	BREAKER AF	BREAKER AT	NO. & WIRE SIZE PHASE	NO. & WIRE SIZE NEUT.	NO. & WIRE SIZE EGC	CONDUIT SIZE	DEMAND KVA	DEMAND AMPS A	DEMAND AMPS B	DEMAND AMPS C
	1			44.0						6					44.0		
3	3	AHU-1	18.26		44.0		3	100	60	6	---	10	3/4"	18.26		44.0	
	5					44.0				6							44.0
	7			20.9						10					20.9		
9	9	HP-1A	8.68		20.9		3	100	40	10	---	10	3/4"	8.68		20.9	
	11					20.9				10							20.9
	13			20.9						10					20.9		
15	15	HP-1B	8.68		20.9		3	100	40	10	---	10	3/4"	8.68		20.9	
	17					20.9				10							20.9
	19			6.0						12					6.0		
21	21	RF-1 (1.5 HP)	2.49		6.0		3	100	15	12	---	12	3/4"	2.49		6.0	
	23					6.0				12							6.0
	25	SPACE AND BUS ONLY															
	27																
	29																
	31																
	33																
	35																
	37																
	39																
	41																
	2	SPACE AND BUS ONLY															
	4																
6	6	PANEL "LP8"	20.39			79.6	2	100	100	2	2	8	1-1/2"	11.99			44.6
	8			90.3						2					55.3		
	10	SPACE AND BUS ONLY															
	12																
	14																
	16																
	18																
	20																
	22																
	24																
	26																
	28																
	30																
	32																
	34																
	36																
	38																
	40																
	42																
		TOTALS	58.50	182.10	91.80	171.40								50.10	147.10	91.80	136.40

PANEL "LP8" SCHEDULE

PANELBOARD CHARACTERISTICS:
VOLTS: 120/240 — MAIN LUGS: 100 AMPS — LOCATION: SECOND FLOOR STORAGE AREA
PHASES: 1
WIRES: 3 — MINIMUM SHORT CIRCUIT RATING: 22,000 RMS SYM AMPS
SOLID NEUTRAL, GROUND BAR

CKT. NO.	POLE NO.	DESCRIPTION	CONN. KVA	CONN. AMPS L1	CONN. AMPS L2	BREAKER P	BREAKER AF	BREAKER AT	NO. & WIRE SIZE PHASE	NO. & WIRE SIZE NEUT.	NO. & WIRE SIZE EGC	CONDUIT SIZE	DEMAND KVA	DEMAND AMPS L1	DEMAND AMPS L2
1	1	LTS: EXIT AND EM UNITS	0.60	5.0		1	100	20	12	12	12	3/4"	0.60	5.0	
3	3	LTS: RMS 102,103	1.15		9.6	1	100	20	12	12	12	3/4"	1.15		9.6
5	5	LTS: RMS 101	1.54	12.8		1	100	20	12	12	12	3/4"	1.54	12.8	
	7	SPACE AND BUS ONLY													
	9														
	11														
	13														
	15														
	17														
	19														
	21														
	23														
	25														
	27														
	29														
	31														
	33														
	35														
	37														
	39														
	41														
2	2	REC: STORAGE AREA AND OH DOOR	1.20	10.0		1	100	20	12	12	12	3/4"	0.60	5.0	
4	4	REC: STORAGE AREA	1.20		10.0	1	100	20	12	12	12	3/4"	0.60		5.0
6	6	REC: RMS 103	1.20	10.0		1	100	20	12	12	12	3/4"	0.60	5.0	
8	8	REC: RMS 103	1.20		10.0	1	100	20	12	12	12	3/4"	0.60		5.0
10	10	REC: RMS 102	1.20	10.0		1	100	20	12	12	12	3/4"	0.60	5.0	
12	12	REC: RMS 102	1.20		10.0	1	100	20	12	12	12	3/4"	0.60		5.0
14	14	REC: RMS 102	1.20	10.0		1	100	20	12	12	12	3/4"	0.60	5.0	
16	16	REC: RMS 101	1.20		10.0	1	100	20	12	12	12	3/4"	0.60		5.0
18	18	REC: RMS 101	1.20	10.0		1	100	20	12	12	12	3/4"	0.60	5.0	
20	20	REC: RMS 101	1.20		10.0	1	100	20	12	12	12	3/4"	0.60		5.0
22	22	REC: RMS 101	1.20	10.0		1	100	20	12	12	12	3/4"	0.60	5.0	
24	24	REC: RMS 101	1.20		10.0	1	100	20	12	12	12	3/4"	0.60		5.0
26	26	REC: RMS 106	1.20	10.0		1	100	20	12	12	12	3/4"	0.60	5.0	
28	28	REC: RMS 106 EWC	1.20		10.0	1	100	20	12	12	12	3/4"	0.60		5.0
30	30	FIRE ALARM DUCT SMOKE DETECTORS	0.30	2.5		1	100	20	12	12	12	3/4"	0.30	2.5	
	32	SPACE AND BUS ONLY													
	34														
	36														
	38														
	40														
	42														
		TOTALS	20.39	90.3	79.6								11.99	55.3	44.6

DAVID GILES, INC.
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(434) 946-2100

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(434) 846-1350

THE CITY OF LYNCHBURG
DEPARTMENT OF PUBLIC WORKS
ENGINEERING
P.O. BOX 60
LYNCHBURG, VIRGINIA 24505

COLLEGE HILL FILTER PLANT
SECOND FLOOR RENOVATIONS

DATE ISSUED:	Feb. 2004
SCALE:	AS NOTED
JOB. NO.	262-154
DESIGNED:	JDH
DRAWN:	JHR
CHECKED:	JDH
APPROVED:	JDH

DRAWING NO. E-3
SHEET OF
REVISION